Blue

Work Order ID 53272

October 30, 2009 1:36:38 PM

Item ID: D206-667-203BL **Accept** **Setup Start** **Stop**

Revision ID:

Item Name: Crosstube Aft, Blue

Start Date: 29/10/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 09/11/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Approvals: **Process Plan:** RL **Date:** 29-10-09 **Tooling:** _____ **Date:** _____ **Run Start** **Stop**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr / **Revision Nbr**									
100	DOCUMENT CONTROL	0.00							
DC	**Memo**	0.00							
Document Control	Photocopy bluefile and create labels as per PPP D206-667-203 CHG003								
110	BENDING MACHINE - CROSSTUBES	0.00				(1X)	0	MB	09-11-09
CNC Bend 2	**Memo**	0.00							
CNC Alpha 160 Bender	Bend tube as per Dwg D206-667-243 using CNC bender program 206L-AF and Folio FT____								
120	QC15- Crosstube Dimensional Check	0.00				1			05.11.10
QC	**Memo**	0.00							
Quality Control									

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Required Date: 09/11/2009 **Req'd Qty:** 1.00 **Customer:**

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Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
Crosstubes	Crosstubes								
Crosstubes	**Memo**	0.00							

Crosstubes

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243 Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

6-Drill Fwd rivet holes using drill Jig DT8789FWD as per Dwg D206-667-143.Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D206-667-243.

8-C'sink holes as per Dwg D206-667-243.

9 -Scribe part # and batch # using vibrating stylus as per Dwg D206-667-243 Inside of Cuff(Donot engrave on outside of tube)

10 -Deburr & Inspect for surface damage. Repair damage within limits as per Dwg

MB 09-11-10

MB 09-11-10

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Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	D206-667-243								
140 HandFXtube Hand Finishing Crosstubes	Crosstubes Chemical Conversion **Memo**	0.00 0.00				11	0	MB	09-11-10
150 QC Quality Control	QC3- Inspect Part Finish **Memo**	0.00 0.00				1			05-11-11
160 QC Quality Control	QC5- Inspect part completeness to step on W/O **Memo**	0.00 0.00				1			05-11-11

Work Order ID 53272

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Item Name: Crosstube Aft, Blue

Start Date: 29/10/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 09/11/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Stop**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Outsource process - NDT per QSI038 4.1	0.00							CL
Outsource2	**Memo**	0.00							09-11-12 (1)
Outsource process - NDT	Liquid Penetrant Inspection as per QSI 038Or Issue P/O: 107418 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order								
180	Packaging	0.00							09/11/12 (1)
Packaging	**Memo**	0.00							
Packaging	Ensure copy of NDT results attached to work order.								
190	QC5- Inspect part completeness to step on W/O	0.00							ml 09 11 15 (1)
QC	**Memo**	0.00							
Quality Control	Ensure results are as per Dwg D206-667-243								

Work Order ID 53272

October 30, 2009 1:36:38 PM

Item ID: D206-667-203BL **Accept** **Setup Start**

Revision ID: **Stop**

Item Name: Crosstube Aft, Blue

Start Date: 29/10/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 09/11/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start

Stop

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	SprayPaint	0.00				ml	09	11	15 (1)
SprayPaint	**Memo**	0.00							
Spray Painting	PAINT GREY 110199 SPRAY PAINT BLUE 113171 CLEAR DELFLEET 113088								
210	QC14- Inspect Spray Paint	0.00				BT	09	11-16	
QC	**Memo**	0.00							
Quality Control	INSPECT SPRAY PAINT								
220	Crosstubes	0.00				ml	09	11	18 (1)
Crosstubes	**Memo**	0.00							
Crosstubes	1-Install nut plates as per Dwg D206-667-243.								

Work Order ID 53272

October 30, 2009 1:36:38 PM

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Item Name: Crosstube Aft, Blue

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Required Date: 09/11/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	Skidtubes	0.00				ML	09	11	17 (1)
Skidtubes									
Skidtubes	**Memo**	0.00							
	1-Install support using 0.03" to 0.06" thick layer of magnobond 6398 per QSI 015. Let cure for 12h after installation and prior to packaging. Note: (3) top holes should be facing up. A/R Magnobond 6398 : 11 2417 EXP: 01/2011								
	2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb ML 09 11 18								
240	QC5- Inspect part completeness to step on W/O	0.00							
QC		0.00				(40)	0		
Quality Control	**Memo**								

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October 30, 2009 1:36:38 PM

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Revision ID:

Item Name: Crosstube Aft, Blue

Start Date: 29/10/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 09/11/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	Pick Kit	0.00				9/11/18		SP	
Packaging	**Memo**	0.00							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00				FC			
QC	**Memo**	0.00							
Quality Control									
270		0.00				9/11/19		SP	
Packaging	Packaging								
Packaging	**Memo**	0.00							
	Identify and pack for shipping as per PPP D206-667-203 Location: _____ PPP Rev: 1								

Work Order ID 53272

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Item ID: D206-667-203BL **Accept** **Setup Start** **Stop**

Revision ID:

Item Name: Crosstube Aft, Blue

Start Date: 29/10/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 09/11/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							09/11/19

Quality Control

09-11-19

Picklist Print

October 30, 2009 1:36:42 PM

Work Order ID: 53272

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue

Comments:

Start Date: 29/10/2009 **Required Date:** 09/11/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN5-10A Bolt		Purchased	No				Each	153.0000	10.0000	9/11/18 SP		

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	153		
107013	8		
110363	2		
112314	26		10x SP
112385	50		
112805	17		
112933	50		

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN5-32A Bolt		Purchased	No				Each	147.0000	4.0000	9/11/18 SP		

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	147		
106242	3		
106519	4		
110363	17		
112082	23		
112805	50		4x SP
112933	50		

Picklist Print

October 30, 2009 1:36:42 PM

Work Order ID: 53272

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue

Comments:

Start Date: 29/10/2009 **Required Date:** 09/11/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN5-34A		Purchased	No				Each	34.0000	4.0000	50	9/11/09	C
Bolt												

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	34		
104679	2		
105408	1		
107013	2		
111425	29		4 x 50

Picklist Print

October 30, 2009 1:36:42 PM

Work Order ID: 53272

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue

Comments:

Start Date: 29/10/2009 **Required Date:** 09/11/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD516 Washer		Purchased	No				Each	1,560.000	18.0000		9/4/18 SJ	

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	1560		
100564	2		
106167	6		
107534	34		
107959	43		
108246	46		
108672	2		
109059	49		
109752	22		
110363	46		
110523	57		
111279	39		
112082	68		
112314	500		1850
112794	146		
112828	500		

D206-667-203TRNRevC Crosstube Turning Detail		Manufactured	No				Each	0.0000	1.0000		B-53312MB 09-11-09	

Picklist Print

October 30, 2009 1:36:42 PM

Work Order ID: 53272

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue

Comments:

Start Date: 29/10/2009 **Required Date:** 09/11/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2873-043RevA		Manufactured	No				Each	41.0000	2.0000			
Nut Plate Assembly												

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	41		
45370	6		
45422	15		09/11/18
50002	20		

D2873-045RevA		Manufactured	No				Each	59.0000	2.0000			
Nut Plate Assembly												

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	59		
45210	3		
46772	16		09/11/18
50001	40		

Picklist Print

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Work Order ID: 53272

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue

Comments:

Start Date: 29/10/2009 **Required Date:** 09/11/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2892-1RevA		Manufactured	No				Each	40.0000	2.0000			
Support												

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	40		
41986	16		
42785	20		
45936	4		m 09 11 17

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
BLUE												
D3595-063-450RevA		Manufactured	No				Each	132.0278	4.0000			
RUBBER CUSHION												

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
LG	127.0589474		
50953	19.0589474		
52447	108		m 09 11 17
Main Warehouse			
ST	4.9689		
38959	2		
43210	2.59		
46465	0.3789		

Picklist Print

October 30, 2009 1:36:42 PM

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Parent Item Name: Crosstube Aft, Blue

Comments:

Start Date: 29/10/2009 **Required Date:** 09/11/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS20601-AD4W10		Purchased	No				Each	185.0000	14.0000			
RIVET												

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	185		
110665	72		M 09·11·18
111177	113		

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21042L5		Purchased	No				Each	1,060.000	4.0000			
Nut												

Warehouse Location	Loc Qty	Loc Code	
Main Warehouse			
ST	1060		
110382	10		
111127	4		
111636	46		
112314	1000		4 SH

Picklist Print

October 30, 2009 1:36:42 PM

Work Order ID: 53272

Parent Item: D206-667-203BL

Parent Item Name: Crosstube Aft, Blue

Comments:

Start Date: 29/10/2009 **Required Date:** 09/11/2009

Start Qty: 1.00 **Required Qty:** 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS21920-22		Purchased	No				Each	98.0000	4.0000			

Clamp(per MIL-DTL-8783C)

Warehouse Location	Loc Qty	Loc Code
Main Warehouse		
ST	98	
109495	6	
110260	42	
111210	50	

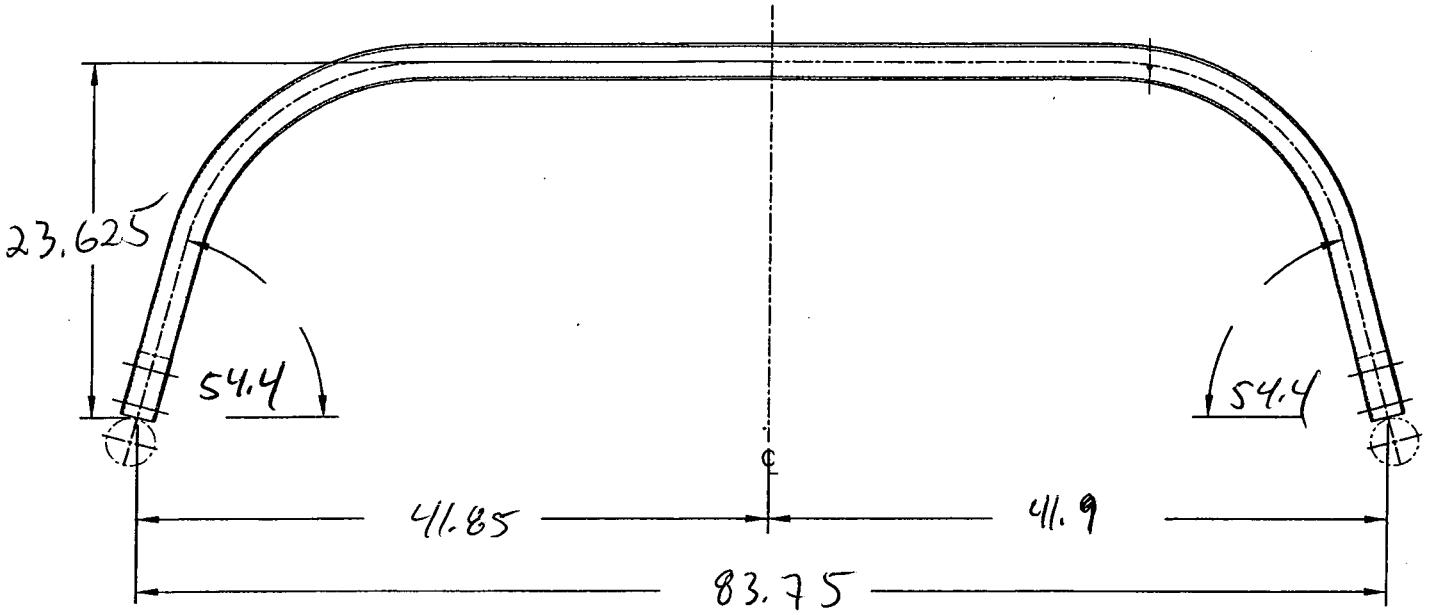
09 11 17

DART AEROSPACE LTD	Work Order:	B-53272
Description: Crosstube High Aft (206L)	Part Number:	D206-667-203
Inspection Dwg: D206-667-243 **Rev:** ~~B~~ C		Page 1 of 1

C

Required Dimension	Min	Max
Height	~~23.46~~ 23.39	~~23.58~~ 23.65
1/2 Span	~~41.80~~ 41.79	~~41.98~~ 42.05
Angle	54	56
Total Span	~~83.72~~ 83.59	~~83.96~~ 84.09

C 09.11.09



Comments

QC15 Inspection	
Date	05.11.10

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Item	Qty -243	Part Number	Description
1	X	D206-667-243	CROSSTUBE ASSEMBLY (206L HIGH AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

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WORK ORDER
NO. 53272

RELEASED

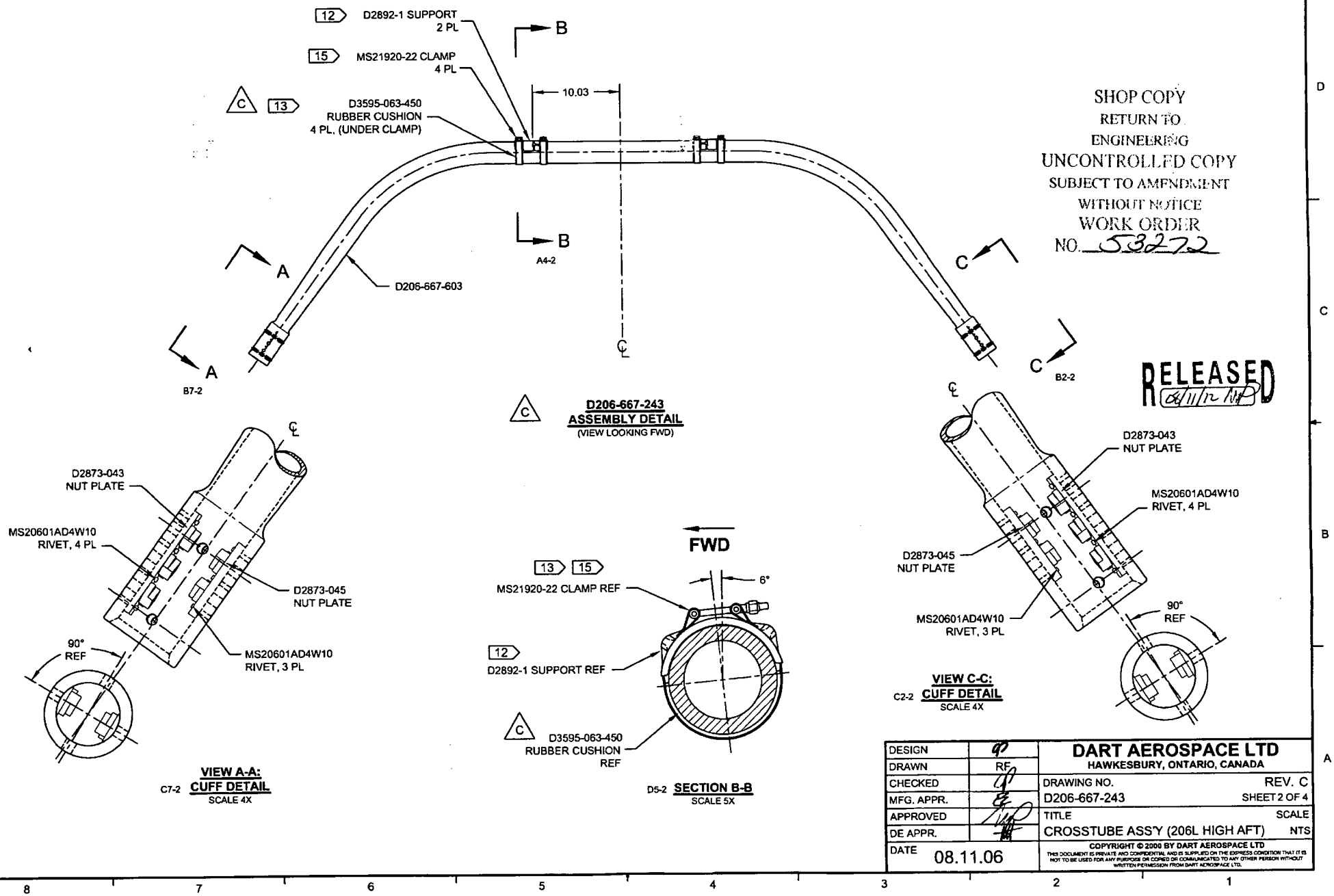
GENERAL NOTES:

1) MATERIAL: MANUFACTURED FROM D6004-115
 FINISHED LENGTH = 104.91±0.020
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
 PAINT OUTSIDE PER DART QSI 005 4.2
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
4) UNITS: INCHES UNLESS OTHERWISE NOTED.
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-243" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
7) WEIGHT: 21.9 lbs
8) PART IS SYMMETRIC ABOUT CENTERLINE.
9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

REV.	DESCRIPTION	BY	DATE
C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-450 WAS D2856-400-773 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN 4-3, C5-3, D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17

DESIGN		DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D206-667-243	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (206L HIGH AFT)	NTS
DATE	08.11.06		

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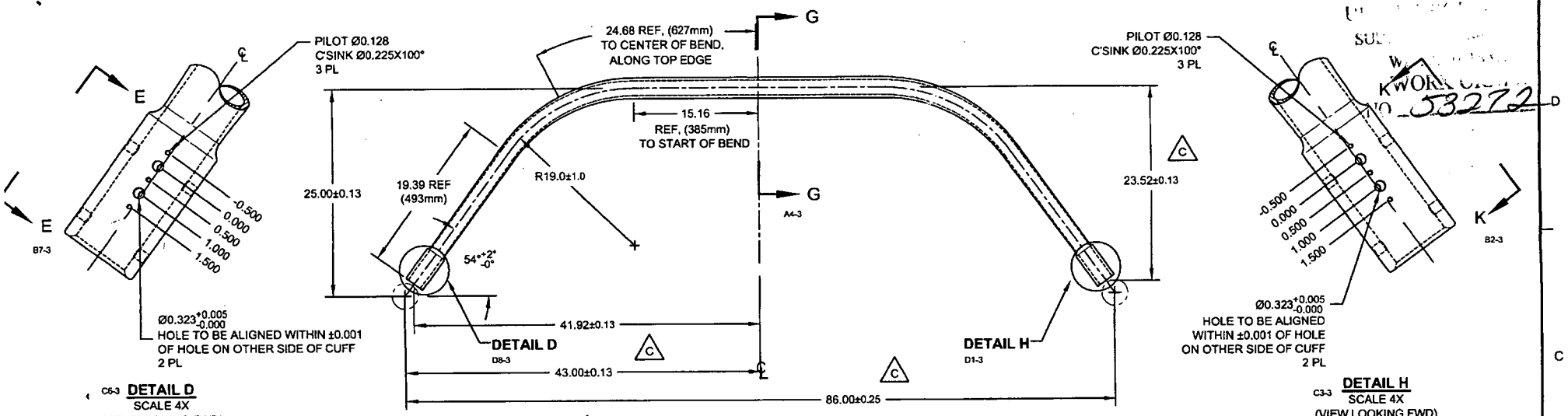
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SUBJECT TO AMENDMENT WITHOUT NOTICE
WORK ORDER NO. 53272

RELEASED 08/11/12 NP

DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. REV. C
MFG. APPR.		D206-667-243 SHEET 2 OF 4
APPROVED		TITLE SCALE
DE APPR.		CROSSTUBE ASS'Y (206L HIGH AFT) NTS
DATE	08.11.06	

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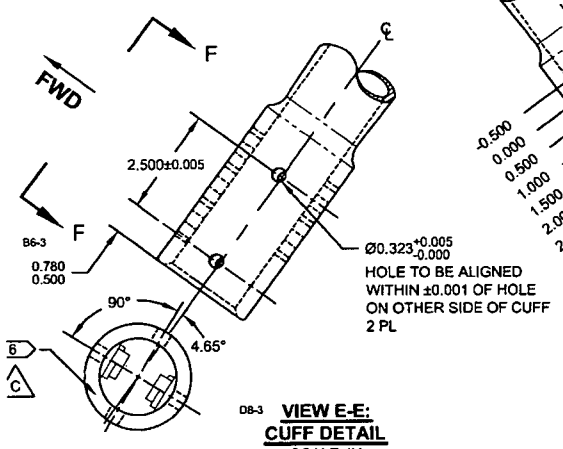
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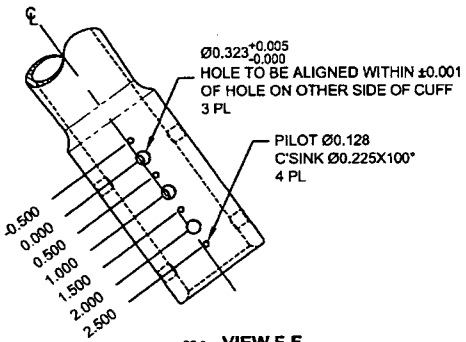
C6-3 **DETAIL D**
SCALE 4X
(VIEW LOOKING FWD)

C3-3 **DETAIL H**
SCALE 4X
(VIEW LOOKING FWD)

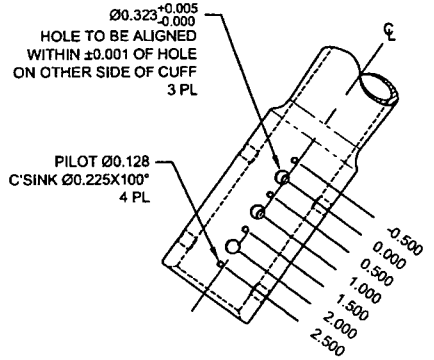
D206-667-603
BENDING AND DRILLING DETAIL
(VIEW LOOKING FWD)



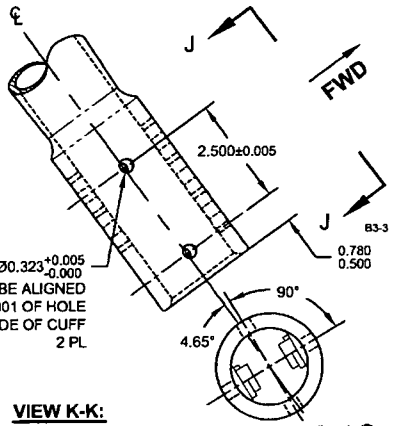
D8-3 **VIEW E-E:**
CUFF DETAIL
SCALE 4X



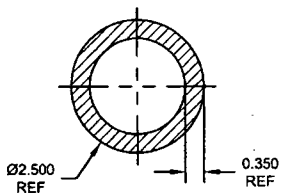
B7-3 **VIEW F-F**
(VIEW LOOKING AFT, ROTATED)



B2-3 **VIEW J-J**
(VIEW LOOKING AFT, ROTATED)



D1-3 **VIEW K-K:**
CUFF DETAIL
SCALE 4X

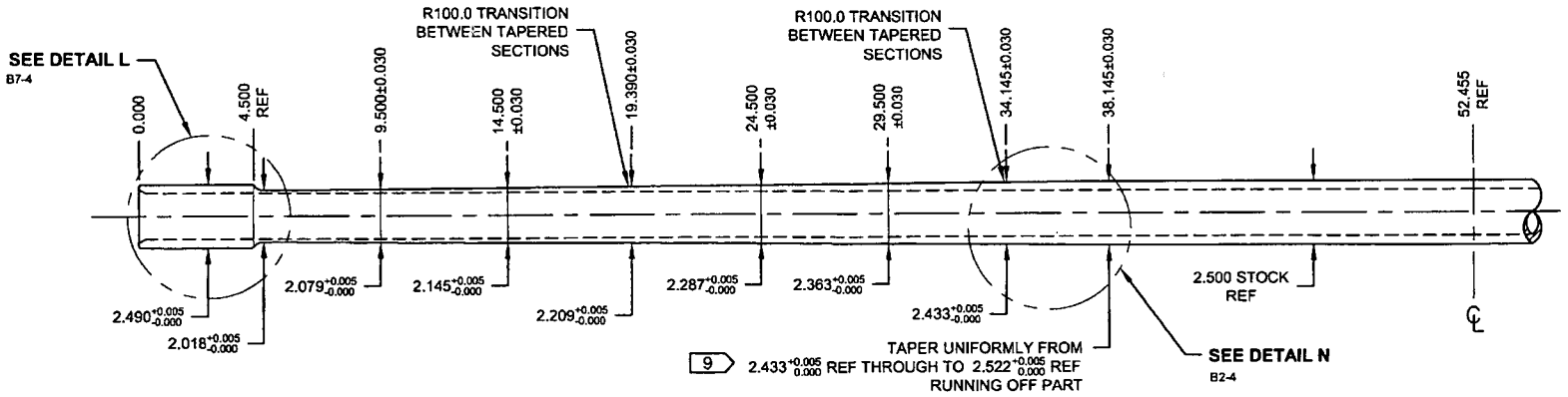


D4-3 **SECTION G-G**
SCALE 5X

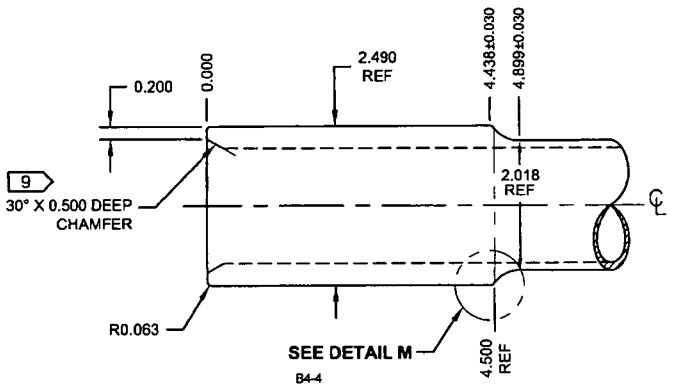
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06/11/12

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. D206-667-243 — REV. C — SHEET 3 OF 4
MFG. APPR.		TITLE: CROSSTUBE ASS'Y (206L HIGH AFT) — SCALE: NTS
APPROVED		
DE APPR.		
DATE	08.11.06	

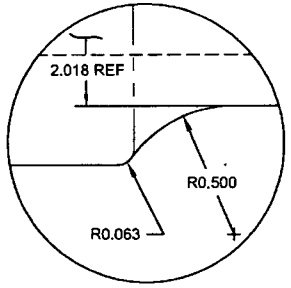
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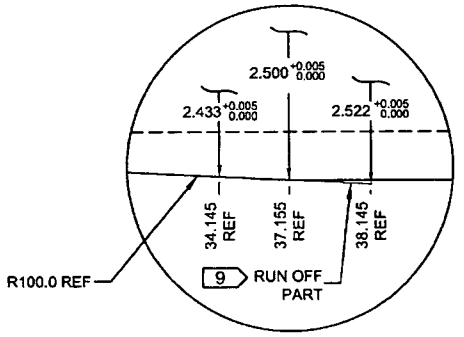
C TURNING DETAIL



C7-4 **DETAIL L: CROSSTUBE CUFF**
NOT TO SCALE



B6-4 **DETAIL M: CUFF TRANSITION**
NOT TO SCALE



C4-4 **DETAIL N: TAPER RUN-OFF**
NOT TO SCALE

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DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. REV. C
MFG. APPR.		D206-667-243 SHEET 4 OF 4
APPROVED		TITLE SCALE
DE APPR.		CROSSTUBE ASS'Y (206L HIGH AFT) NTS
DATE 08.11.06		

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LIQUID PENETRANT TEST REPORT

P- 15308

ACUREN

PAGE 1 OF 1

CLIENT: DART AEROSPACE
ATTENTION: LINDA / CHANTEL
ADDRESS: 1270 ABERDEEN ST. HAWKESBURY, ON. K6A 1K7
PROJECT: F.P.I. ON CROSS TUBES.
ITEM(S) EXAMINED: FIVE ITEMS

DATE: NOVEMBER 12 TIME: AM ☑ PM ☐
ACUREN JOB NO.: 188-09-2008-001638
PO/WO NO.: — 10749
WORK LOCATION: SAME AS NOTED.
ACCEPTANCE STD.: ASTM 1417 REV./DATE: 2007

JOB DESCRIPTION

PROCEDURE NO. LT-0002 REV./DATE
TECHNIQUE NO. LT-Tech 2 REV./DATE

PART NO.: —
MATERIAL: ALUMINE ALUMINUM THICKNESS: N/A
SCOPE: WET FLUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT 100% EXTERNAL

TEST DETAILS

METHOD	☑ FLUORESCENT ☐ VISIBLE			☑ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED	
FAMILY BRAND	MAGNAFLUX			BLACK LIGHT S/N 16459 ☑ OUTPUT > 1000 µ W/CM² ☐ AMBIENT < 2 fc	
PENETRANT	ZL 67	MINIMUM DWELL TIME	45/10 MIN.	LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT>100 fc @ SURFACE	
PENETRANT REMOVER	#20	MINIMUM DRY TIME	>10 MIN.	OTHER LABINO	
DEVELOPER	SKD S-2	MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE DEC. 8, 2007
DEVELOPER TYPE	☑ NON AQUEOUS ☐ AQUEOUS ☐ DRY				

TEST SURFACE

SURFACE CONDITION	☐ AS GROUND	☐ AS WELDED	☑ MACHINED	☐ SHOT BLASTED	☐ CLEAN BARE METAL
SURFACE TEMPERATURE	☐ < - 4°C/ 20°F	☐ - 4°C/ 20°F TO 10°C/50°F		☑ 10°C/50°F TO 52°C/125°F	☐ > 52°C/125°F

RESULTS- (☐ METRIC ☐ IMPERIAL)

1 CROSSTUBE - W.O. 53139 ✓
1 CROSSTUBE - W.O. 53140 ✓
1 CROSSTUBE - W.O. 53271 ✓
1 CROSSTUBE - W.O. 53272 ✗
1 CROSSTUBE - W.O. 52080 ✓

09 11 15

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.
Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE: MATT MURDOCH (PRINT) — (SIGNATURE)
DTR # E-27851
TECHNICIAN (SIGNATURE):
NAME (PRINT): MIKE JOHNSTON (1ST TECHNICIAN)
CGSB LEVEL II SNT LEVEL II
CGSB REG. NO 6066
2ND TECHNICIAN
CGSB LEVEL ____ SNT LEVEL ____
CGSB REG. NO ____
REPORT REVIEWED BY:
NAME INITIALS

WHITE – CLIENT COPY CANARY – OFFICE COPY PINK – TECHNICIAN COPY GOLD – OFFICE COPY